

# GONIO BEARINGS



Full stainless steel precision curved guides for smooth and repeatable arc motion. Compact cross roller Gonio Bearings engineered for high-accuracy angular positioning in optical, metrology and semiconductor applications.

## PRECISION ANGULAR MOTION IN A COMPACT FORM

PM Gonio Bearings are stainless steel precision-ground curved guides equipped with cross roller cages, delivering true arc motion with a fixed centre of rotation. The robust design ensures excellent load capacity, stiffness and repeatability, even in compact, high-precision assemblies.

## FIXED ROTATION CENTRE

Each set provides defined curvature geometry for exact angular motion. The rotation axis remains constant throughout the travel range, preventing offset or parasitic movement.

## HIGH STIFFNESS AND SMOOTH MOTION

Cross roller elements in combination with precision ground V-grooves, ensure linear contact between rollers and raceways, resulting in extremely low friction, minimal stick-slip and long-term stability under load.

## CONSISTENT ACCURACY WITH LOW FRICTION

All components are matched per set and precision-ground. Factory measured parallelism and curvature guarantee sub-micron accuracy of motion. After preload they guarantee high repeatable accuracy of motion and consistent low friction resistance.

## COMPACT AND MODULAR DESIGN

The low-profile structure fits easily into optical stages, tilt systems and metrology frames. Multiple radii are available to suit different stiffness or torque requirements.



## OPTIONAL FEATURES OR CUSTOM VERSIONS

For dynamic or vertical applications, an optional Anti-Cage Creep (ACC) system prevents roller cage displacement during oscillating motion. Upon request, PM supplies alternative radii, preload classes, stainless steel variants, and cleanroom or vacuum-prepared models. PM also designs and manufactures complete goniometer stages that integrate the Gonio Bearings into X, XY or multi-axis configurations, offering precision angular motion solutions customised to customer requirements.



## CLEANROOM AND VACUUM COMPATIBLE

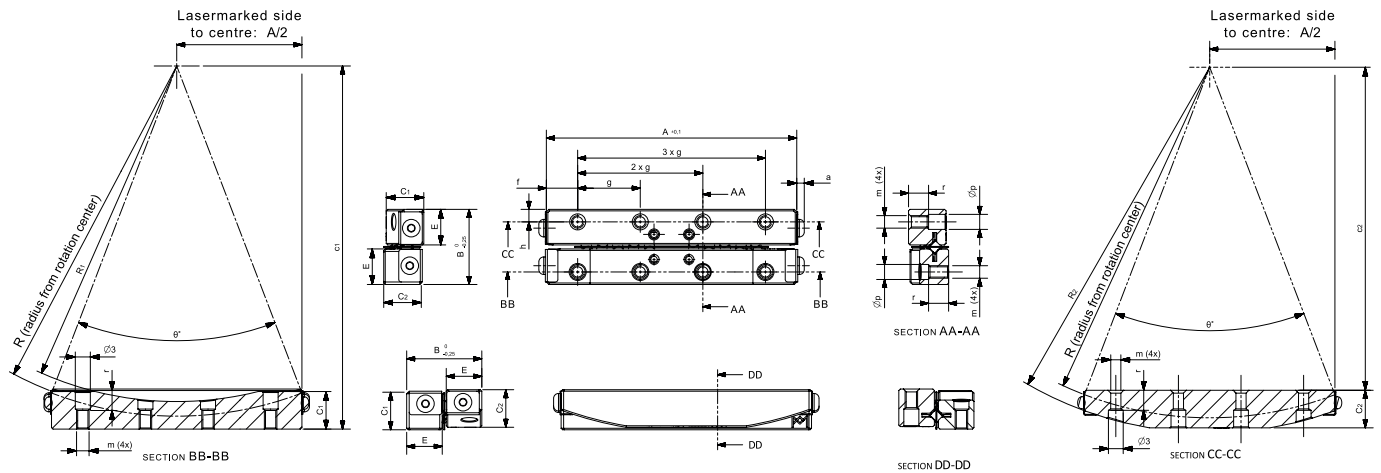
PM is able to supply the Gonio Bearings in materials meeting the demands for cleanroom and ultra-high vacuum. They can be delivered as set, UHV cleaned and double-packaged.

## EASY TO MOUNT

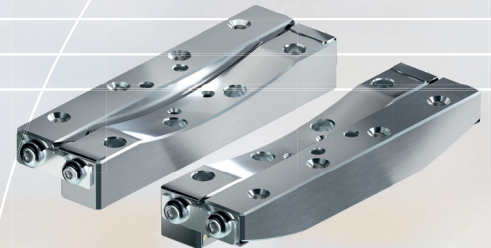
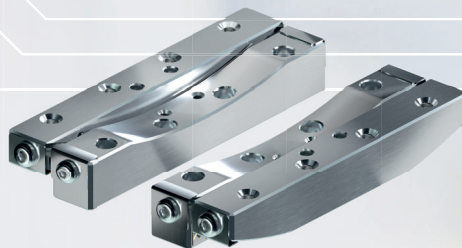
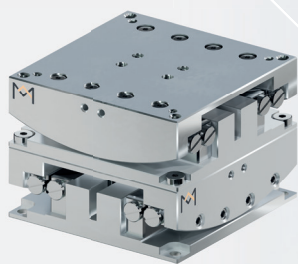
The Gonio Bearings are designed so that they can easily be fit into a flat machined surfaces. This makes it for the user easy to integrated into the design without the need for difficult and costly machined surfaces.

# TECHNICAL INFORMATION

## PM GONIO BEARINGS (RGBF-SERIES)



	Rotation range	Number of rollers	Roller diameter	A	R	R <sub>1</sub>	R <sub>2</sub>	c <sub>1</sub>	c <sub>2</sub>	C <sub>1</sub>	C <sub>2</sub>	B	E	f	g	h	m	r	p	a
Set types:			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
RGBF-2050-70-SS	±5°	10	2	50	70	67	73	72.5	64.5	7.5	7.5	15	7.1	6.25	12.5	2.5	M2.5	4	3	1.5
RGBF-2050-87-SS					87	84	89.5	89.5	81.5	7.5	7.5									
RGBF-2050-103-SS					103	100	106	105.5	97.5	7.5	8			5.5	13					
RGBF-2050-120-SS					120	117	123	122.5	114.5	7.5	8									
RGBF-3070-85-SS	±10°	10	3	70	85	81	89	89.5	75.5	14	12.5	18	8.45	12.5	15	3	M3	7	3.5	1.8
RGBF-3070-110-SS					110	106	114	114.5	100.5	12.8	12.5									
RGBF-3100-125-SS					125	121	129	129.5	110.5	17.5	18			12.5	15					
RGBF-3100-160-SS					160	156	164	164.5	145.5	15	18									



### PM'S EXPERTISE COVERS

PM is a high-end supplier of precision bearings and customised mechatronic systems, offering full vertical integration from co-engineering to production, assembly and qualification – all performed in-house in the Netherlands. PM's expertise covers ultra-precise linear and rotary bearings, complex motion modules and large-scale precision machining up to 10.5 metres. With ISO Class 6 and 7 cleanrooms, in-house contamination control and certified quality management systems, PM guarantees consistent quality, short lead times and complete traceability for high-tech industries worldwide.

### PM B.V.

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